Remarks

The Examiner rejected claims 1–3, 5–9, 11, 14, and 15 and objected to claims 4, 10, 12, 13, and 16. Claims 1–16 remain in the application.

Applicants thank the Examiner for indicating the allowability of claims 4, 10, 12, 13, and 16, and traverse the rejection. Applicants respectfully ask the Examiner to reconsider his rejection of the remaining claims under 35 U.S.C. §103(a) as being unpatentable over US 5,275,091 (McFarlane et al.) in view of US 4,310,281 (Crookes).

In the Response to Arguments section of the Final Office Action, the Examiner states that "[i]t is the teaching in Crookes of successive bend angles that is being applied to the McFarlane device" and that "[s]uch bend angles allow for a thorough mixing of the product as it travels along the path." But, contrary to the Examiner's contention, Crookes does not teach the general principle that successive bend angles allow for thorough mixing. Rather, Crookes teaches that "[a]n object of the invention is to provide mixing apparatus which utilizes pipe elbows in a **particular configuration** to effect mixing." (col. 1, ll. 51–53; emphasis added). The **particular configuration** Crookes refers to is the only one he describes; i.e., one or more groups of **three consecutive elbow bends in mutually perpendicular directions**. Here are recitations of that particular configuration:

- [T]he pipe elbows are right angle elbows and are arranged in groups of **three** whose centerlines are disposed in mutually perpendicular planes. (col. 2, ll. 18–20)
- [T]he mixing apparatus is composed of a succession of pipe elements which are connected in groups of **three**. (col. 3, ll. 1–3)
- The … solutions pass through a vertical array of 12 pipe elbows consisting of four groups of elbows each with **three** elbows arranged in mutually perpendicular relation. (col. 4, ll. 45–49)
- The use of **three** elbows in each unit has the further advantage that cleaning … can be easily effected. (col. 5, ll. 8–10)

Unlike applicants' and McFarlane's devices, Crookes's pipes are stationary, which means that Crookes has to rely solely on the mutually perpendicular, three-elbow configuration

to achieve thorough mixing. Indeed, Crookes states that an "object of the invention is to utilize the pipe elbows as the **sole means** to effect the mixing of the conveyed substances." (col. 1, ll. 59–61; emphasis added) Nowhere does Crookes mention or suggest that fewer than three elbows not in a mutually perpendicular relationship would work satisfactorily.

Thus, Crookes does not teach generally using consecutive bends for mixing. Crookes teaches specifically using one or more groups of three consecutive, mutually perpendicular bends. And if such a configuration of multiple groups of three elbows were added to McFarlane's rotatable feed pump, the length of the pump would have to be much greater than that of the spiral pump described. Consequently, one of ordinary skill in the art would not be inclined to combine the teachings of Crookes's three-elbow, mutually perpendicular pipe mixer with the McFarlane food pump.

Consequently, the §103(a) rejection of claims 1–3, 5–9, 11, 14, and 15 is unsupported by the art and should be withdrawn.

Applicant respectfully requests reconsideration of the rejections of the claims in view of these remarks and allowance of the application.

This response is being electronically filed within two months of the Final Office Action. Any fees considered necessary for consideration of this response may be charged to Deposit Account No. 12-0090. If the Examiner thinks a telephone conference would expedite the prosecution of this application, he is cordially invited to call applicants' attorney.

Respectfully submitted,

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